and cold air on each side of his stove-grate, clearly demonstrated by the suction and repulsion of the flame of a candle placed near the bottom and upper part of the openings.* Mr. Geo. Field, of Sion-hill-park, the author of various works on optics, &c. &c., has made his little parlour perfectly free from any perceptible draft by a pipe from the park through the wall into the hinder portion of stove, whence, after being warmed, it replaces the consumed air of the room, supplies the grate with oxygen, and assists the up-draft of the chimney, which being overhung by very tall trees, afforded a severe trial, but a very successful one. On a more extensive scale, in the heart of London, at the Hall of Commerce, in Threadneedle-street, every chimney has a small flue or down-shaft, to supply cold air to fill up the vacuum caused by the combustion. This was made when the building was erected in 1841. I could refer to other cases, but will conclude by mentioning a very pretty model for ventilating mines, by John Martin, the artist, and propounder of many improvements. I again repeat that our patent law allows no monopoly of the principles of nature, and I entertain no apprehension of an exception in favour of this "assumed new discovery." I fear no new tax on pure air. CENSOR.

ON THE OXIDATION OF RAILWAY BARS.

A PAPER on this subject, by Mr. R. Mallet, was read at the recent meeting of the British Association. It suggests an important consideration. The writer states that the top surface of a railway bar in use is constantly preserved in a state of perfect cleanliness, freedom from oxidation, and polish; while the remainder of the bar is rough-coated originally with black oxide, and soon after with red rust. Not only is every metal *electro-positive to its own oxides*, but the polished portion of a mass of metal partially polished and partially rough is primarily corroded on the rough portion. Hence a railway bar while in use is constantly preserved from rusting by the presence of its polished top surface. Such polished surface has no existence on the rail out of use. The upper surface of the rail in use is rapidly condensed and hardened by the rolling of the traffic over it; and it is also shown in his report that, all other circumstances being the same, the rate of corrosion of any iron depends upon its density, and is less in proportion as this is rendered greater by mechanical means. As every metal is positive to its own oxides, the adherent coat of rust upon iron, while it remains, powerfully promotes the corrosion of the metal beneath, and this in a greater degree in proportion as the rust adherent is of greater antiquity. It has been shown that the rust produced by air and water, which at first contains but little per-oxide, continues to change slowly, and becoming more and more per-oxidized becomes more and more electro-negative to its own base. Now, the rust upon a railway bar out of use continues always to adhere to it, and thus to promote and accelerate its corrosion; while the rust formed upon a railway bar in use is perpetually shaken off by vibration, and thus this source of increased chemical action is removed. To recapitulate, railway bars forming part of a long line, whether in or out of use, corrode less for equal surfaces than a short piece of the same iron similarly exposed. Rails in use corrode less than those out of use. This difference is constantly decreasing with the lapse of time. The absolute amount of corrosion is a source of destruction of the rail greatly inferior to that due to traffic. It is highly probable *that the electrical and magnetic forces developed in the rails by terrestrial magnetism and by rolling traffic re-act in some way upon the chemical forces* concerned in their corrosion; and that, therefore, the direction of lines of railway in azimuth is not wholly indifferent as respects the question of the durability of rails. Mr. Mallet suggests:—1st. Of whatever quality iron rails are rolled, that they should be subjected prior to use to an uniform course of hammer-hardening all over the top surface and sides of the rails; and, 2ndly, that all railway bars before being laid down should, after having been gauged and straightened, be heated to about 400 degrees Fahrenheit, and then coated with boiled coal tar. This has been proved to last more than four years, as a coating perfectly impervious to corrosive action, while constantly exposed to traffic.

* According to Dr. Clowne's statement, his system is not dependent on heat.—Ed.

WESTMINSTER ABBEY AND PUBLIC STATUES.

I VISITED Westminster Abbey yesterday morning, and was much struck with the imposing statue of the late Sir W. Follett, by Behnes; at the same time I could but feel that it appeared sadly out of its place, and in too crowded a situation. What a fine occasion this would have been for the commencement of a series of statues of eminent and great men (particularly with so distinguished a lawyer as the late Sir Wm. Follett), by placing it in Westminster Hall instead of the Abbey. It is colossal, and is placed by the side of another statue, which it throws into utter insignificance. Again, how much grander the statue of Lord Mansfield would appear if removed to such a situation as above suggested. Further, they mar the Abbey. When will this country think properly as to works of art? S.

Apropos of Westminster Abbey, we give some stanzas from a little poem under this title by Mr. Owen Howell,* which has been forwarded to us.

"Gaze on this Gothic relic of the past.—
See o'er its towers does Ruin surely creep:
Time has her mantle o'er each buttress cast,—
On each grey battlement Time's shadows sleep.
What will not fade?—all records cease at last;
A few short years temple and tablet sweep
Into the mighty gulf that gathers all:
The slow destroyer, Time, sees tottering empires fall.

Far from Life's busy crowds awhile we stray
To where the dead within these walls repose,
Here to hold council with the mouldering clay
That antique tombs and sepulchres enclose,—
'Midst dusty banners fading fast away,
Old monumental slabs, and funeral shows,
To walk with noiseless tread and held-in breath,
To muse on human life, and meditate on death.

* * * * *

In hollow gusts, the wind with solemn tones
Murmurs sad dirges as we musing walk
Over old epitaphs on foot-worn stones:
Each monument, though silent, seems to talk
Of mouldering coffins and of bleaching bones;
While voiceless phantoms round us gravely stalk,
Wrapped in the dark shades of obscurest night:
The moon pours down, o'er all, her 'dim religious light.'

* * * * *

Chapels and shrines all speak of what has been,—
And sad the moral that they ever preach!
There sleeps Elizabeth—there Scotland's Queen,—
Victor and victim solemn lessons teach:
Their bloodless ghosts in yonder aisle are seen,—
A thousand phantoms fancy sees in each;
While the old banners hanging up on high
Flutter, as one by one, beneath them, they glide by.

Over each monument and time-worn bust
Wisdom does well to pause and meditate.
Here are interred the good, the wise, the just,—
Here, with rich trappings, the departed great
Were brought in glory, and laid in the dust:
Beneath these tombs, in darkness, now they wait,
Covered with moss, time-eaten, black and quaint:
Lo! yonder sleeps a King, and there a Gothic Saint.

The graves and vaults that at our footsteps lie—
The marble saints and carven busts of kings—
All seem to say 'Prepare, prepare to die!
The world and life are quickly-passing things:'
Whilst each uncouth and ghastly effigy—
Cherub and angel, with their outspread wings—
With sightless eyes upon us ever stare,
As wondering whence we came, and wondering what we are."

* London: Matthews, Paternoster-row.

THE ADELPHI THEATRE.—The additional entrances and stairs here, mentioned by us some time since, have been opened to the public, and increase considerably the means of escape in the event of fire. The manager deserves the thanks of the public for the step: we should be glad to see it followed in some other theatres we could name. The last time we looked in, a crowded house was laughing spasmodically all night.

NOTES IN THE PROVINCES.

A FEATURE unnoticed in the existing plans of the Abbey Church at Bury has just been revealed in course of the archæological diggings there, namely, that at the circular apse of the choir (plan in Yates's history) a semi-circular chapel (besides the small Mary Chapel) jutted out about 15 feet in diameter from the northern curve of the apse. Beneath it appears to have been a crypt, in which are remains of a pavement of encaustic tile, and part of an erection supposed to have been a loculus, or shrine, below the altar. The committee require further aid in the development of the plan of the choir.——The shroud of rough-cast in which the exterior of the Saxon tower of Holy Trinity Church, Colchester, has long been buried, is now stripped off, we are told, and the whole, as far as possible, restored. An ancient arch in the interior has been re-opened to view by the removal of a gallery, and the organ placed under it. Some additional open seats have thus been secured at west end of nave; estimated expense of alterations 90*l*., deficient 20*l*.——The parish church of Maiden Newton, Dorset, is to be restored and enlarged.——The Commissioners of Lunacy have called on the Secretary of State to order the erection of a new asylum for the pauper lunatics of Bristol. The cost, it is said, will not be less than 50,000*l*.——The widening of Bristol-bridge is again talked of.——Conway Castle, it is said, is to be restored, at the public expense.——The Merthyr Union guardians have decided on the erection of a new workhouse on a large scale.——Efforts are about to be made to erect two additional churches in the parish of St. Mary, Nottingham. Earl Manvers has promised 500*l*. and Lady Manvers 100*l*., besides which about 4,600*l*. have been contributed or promised from other sources, and there is land secured for one of the churches.——The directors of the New Exchange, Wolverhampton, have fixed on plans for their new building, furnished by Mr. G. T. Robinson, of Wolverhamton, architect.——The new church of St. Matthew, Toxteth-park, Liverpool, was opened on Sunday week. It is a plain Gothic edifice, with open-timbered roof and bench fittings. The official part is slightly elevated into a sort of *dais* with tesselated pavement, and octagonal pulpit supported by a central octagonal pillar.——The Bridgewater Canal Company are carrying passengers between Liverpool and Manchester, 40 miles and upwards, for 3d. each!——The Bradford guardians, after an immense deal of talk about it for the last twelvemonth or two, are now said to have ordered that an advertisement be prepared, calling for plans for a new workhouse.——The chief stone of the church of St. Luke, East Morton, near Bingley, was laid on the 9th inst. The plan, says the *Leeds Intelligencer*, consists of a nave, south aisle, chancel, south porch, vestry, and bell gable, about 65 feet above the floor. The nave is 70 feet long, by 22 feet 10 inches wide, and 45 feet high to ridge of roof—aisle, 70 feet long, by 14 feet 8 inches, and 13 feet high at lowest side—chancel, 30 feet long by 16 feet wide, and 33 feet high to ridge of roof. The style is First Pointed. The roofs will be of steep pitch, and the timbers open in the interior.——The church of Holy Trinity, Meanwood, Leeds, lately consecrated, is cruciform, and in the style of thirteenth century; length, 111 feet internally, 78 of which in nave and 32 in chancel; width at transepts, 42 feet; height of spire, 130 feet; sittings, 400. The area and foundations are laid with concrete. In a vault below the cross is a furnace, whence the building is heated by pipes. The walls are of Meanwood stone. The architect was Mr. W. Railton; and Mr. G. Bridgart, of Derby, was the general contractor; Mr. Boumphrey, clerk of works. The contract cost was 4,300*l*., 'exclusive of ornamental parts.' The founders were two ladies named Beckett.——The foundation-stone of the church to be erected at Moor-Allerton, near Leeds, was laid on Wednesday week. Mr. Thompson, of Leeds, is the architect. The building is to be ready for consecration in about six months.——The church of Corringham, near Gainsborough, is undergoing extensive repairs, at the expense of Sir Thomas Beckett, Bart., of Somerby Hall.——A return

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